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VASCULAR DISEASE

ASSOCIATION OF ANTIDEPRESSANT MEDICATIONS WITH CAROTID INTIMA MEDIA THICKNESS IN MIDDLE AGED VETERAN TWINS

ACC Poster Contributions
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Session Title: Vascular Stiffness and Carotid Imaging
Abstract Category: 8. Vascular Biology/Atherosclerosis/Thrombosis/Endothelium
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Authors: *Amit J. Shah, Emir Veledar, Lucy Shallenberger, Nancy V. Murrah, Farhan Jawed, Douglas Bremner, Jack Goldberg, Viola Vaccarino, Emory University, Atlanta, GA*

Background: Antidepressant medications may increase cardiovascular risk through augmenting the release of vasoconstrictive neuropeptides. Studies of the cardiovascular effects of antidepressant medications are conflicting, and few studies have examined their vascular effects.

Methods: We assessed carotid intima-media thickness (IMT) and brachial flow-mediated (FMD) dilation via B mode ultrasound in 513 middle-aged male twins from the Vietnam Era Twin Registry. Traditional ischemic heart disease (IHD) risk factors were measured. Depression and post-traumatic stress disorder (PTSD) were assessed with the Structured Clinical Interview for the Diagnosis of Psychiatry Disorders, and depressive symptoms were measured via Beck Depression Inventory. Medication regimens were verified by a clinician. Mixed effects regression models were used to assess the overall association and to examine differences within pairs discordant for antidepressant intake.

Results: The mean age was 55 +/- 3 years, 95% were white, and 16% were taking antidepressants, of whom 60% were taking selective serotonin reuptake inhibitors (SSRI). Antidepressant use was associated with increased carotid IMT in unadjusted (β=2.7 μm, p=0.03) and adjusted (β=3.7 μm, p=0.006) analyses, controlling for IHD risk factors, depression, PTSD, alcohol and coffee intake, and previous IHD. In 59 pairs discordant for antidepressant use, the adjusted association persisted (β=4.1 μm, p=0.01), and no interaction with zygosity was found. The within-pair associations were similar for SSRI and non-SSRI antidepressants. Similar results were found in a subgroup (n=360) patients without IHD (β=3.0 μm, p=0.03). No associations were found between IMT and depression or PTSD, but a significant interaction was found between antidepressant use and depressive symptoms (p=0.049), such that a higher level of depressive symptoms was associated with higher IMT only in those taking antidepressants.

Conclusion: Antidepressants are associated with atherosclerotic vascular disease despite adjustment for IHD, psychiatric, and familial factors. Antidepressants may act synergistically with depressive symptoms to increase vascular disease.